Hepatitis C and Human Immunodeficiency Virus Infection Following Ozone Autohaemotherapy

In the past three years, our institute has been consulted on three occasions involving patients who developed severe infectious complications associated with so-called ozone autohaemotherapy. Two patients developed hepatitis C virus (HCV) infection and one patient, a 35-year-old woman, acquired not only HCV but also the human immunodeficiency virus (HIV) following autohaemotherapy. This woman had attended a private practice because of menstrual cycle-dependent migraine, and the doctor recommended ozone autohaemotherapy. The woman was otherwise healthy and, in particular, had no risk factors for the acquisition of blood-borne viruses. All three patients received ozone autohaemotherapy over many months.

Ozone autohaemotherapy is a procedure in which 50–100 ml of blood is withdrawn from the patient and immediately treated with a gaseous mixture of oxygen and ozone. Subsequently, the blood is promptly reinfused. It is a form of therapy not officially sanctioned by the medical community, and scepticism considering its supposed usefulness in many different disorders is justified (1). Depending upon how the ozonization of blood is performed, there is a considerable risk of transmission of blood-borne viruses associated with the procedure.

In the three cases described here, patients' blood was withdrawn through a peripherally inserted intravenous catheter and was passed directly via a connecting piece into an empty infusion bottle. The oxygen-ozone mixture was taken from the ozone apparatus by pressing the tip of a great glass syringe onto the port of the apparatus. Subsequently, the gas mixture was passed into the infusion bottle containing the patient's blood using a large disposable injection needle. During the procedure the blood bubbles up, and sometimes the tip of the syringe is then visibly contaminated with blood.

The hygiene problem in the reported cases was that although a sterile infusion bottle, a sterile connecting piece, and a sterile disposable needle were used in every patient, the glass syringe was changed only one or two times per day or in the case of *visible* contamination with blood. Therefore, the blood of several patients is frequently ozonized with the same, possibly contaminated syringe. Contamination can occur during the passage of the gas mixture into the infusion bottle; it is also possible that the syringe tip can become contaminated when it is pressed onto the port of the apparatus, which, in turn, could have been contaminated through a contaminated syringe. Cleaning and disinfection of this port is extremely difficult, if not impossible.

We are convinced that the HCV infections in two patients and the HCV-HIV co-infection in the third case were caused by the fact that the glass syringe had not been changed between patients. Therefore, all of these infections could have been completely avoided if simple and inexpensive standard infection control practices had been followed.

F.D. Daschner*

Institute of Environmental Medicine and Hospital Epidemiology, University Hospital, Hugstetter Straße 55, 79106 Freiburg, Germany.

Reference

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Septicemia due to Susceptible *Enterococcus faecalis* despite Prophylaxis with Trimethoprim-Sulfamethoxazole

Enterococci are becoming increasingly important nosocomial pathogens, commonly causing urinary tract infections, sepsis, and intra-abdominal and pelvic infections (1). The efficacy of treatment with trimethoprim-sulfamethoxazole (TMP/SMX) against enterococci that have shown in vitro susceptibility to this antimicrobial agent is a matter of controversy.

We present the case of a 20-year-old male who had received bone marrow transplantation because of a lymphoblastic non-Hodgkin's lymphoma. After discharge from hospital, he received oral TMP/SMX (160 mg TMP plus 800 mg SMX; Roche, Germany) twice daily for three consecutive days per week for prophylaxis of *Pneumocystis carinii* pneumonia. During a prophylaxis cycle started ten weeks after bone marrow transplantation, the patient developed fever of 39°C and remained febrile over three days. Pancytopenia with a total leuko-